

REMARKS

After the foregoing Amendment, claims 1-21 are pending in this application. Claims 1, 8 and 15 have been amended to more distinctly claim subject matter which the Applicants regard as the invention. The Applicants submit that no new matter has been added.

Claims 1, 8 and 15 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 7,061,994 (Li et al., hereinafter referred to as Li). Claims 2, 9 and 16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Li in view of U.S. Patent Application Publication No. 2005/0157813 (Cope et al., hereinafter referred to as Cope). Claims 3, 10 and 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Li and Cope as applied to claims 2, 9 and 16, and further in view of U.S. Patent No. 3,950,750 (Churchill et al., hereinafter referred to as Churchill). Claims 4, 6, 11, 13, 18 and 20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Li in view of U.S. Patent No. 4,220,923 (Pelchat et al., hereinafter referred to as Pelchat). Claims 5, 7, 12, 14, 19 and 21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Li and Pelchat as applied to claims 4, 9 and 16, and further in view of Churchill.

The present invention is an apparatus, (e.g., a digital baseband (DBB) receiver, a wireless transmit/receive unit (WTRU), an integrated circuit (IC)), for receiving and processing a wireless communication signal. The apparatus comprises:

- (a) at least one demodulator which outputs analog real and imaginary signal components on real and imaginary signal paths, respectively, in response to receiving the communication signal;
- (b) an analog to digital converter (ADC) coupled to the real and imaginary signal paths for receiving the analog real and imaginary signal components and outputting respective digital real and imaginary signal components; and

(c) a digital cross-talk compensation module in communication with the ADC, wherein the digital cross-talk compensation module receives the digital real and imaginary signal components, estimates the cross-talk interference caused by each of the signal components, and outputs digital real and imaginary cross-talk compensated signal components.

Li discloses methods and apparatus for in-phase (I)/quadrature (Q) imbalance compensation. Li discloses an I/Q imbalance correction device 102, as shown in Figure 2 of Li. The Examiner asserts that Li's I/Q imbalance correction device 102 is a digital cross-talk compensation module. As disclosed in the portion of Li cited by the Examiner at column 4, lines 28-40, Li discloses that the I/Q imbalance correction device 102 simultaneously compensates for amplitude and phase imbalance between the I and Q input signals, and outputs a corrected I signal and a corrected Q signal. As further disclosed by Li, the outputs of the I/Q imbalance correction device 102 are the balanced I and Q baseband signals. However, no where in Li is it taught or suggested that the I/Q imbalance correction device 102 estimates the cross-talk interference caused by each of the real (I) and imaginary (Q) signal components, as was recited in the original claims 1, 8 and 15.

Although the Applicants submit that Li fails to teach or suggest all of the features of the original claims 1, 8 and 15, the Applicants have further amended claims 1, 8 and 15 to more distinctly claim subject matter which the Applicants regard as the invention. As amended, each of claims 1, 8 and 15 recite that the digital cross-talk compensation module estimates cross-talk interference on the real signal component resulting from energy from the imaginary signal component being induced into the real signal path, and estimates cross-talk interference on the imaginary signal component resulting from energy from the real signal component being induced into the imaginary signal path. The Applicants submit that Li fails to teach or suggest all of the features of the amended claims 1, 8 and 15.

Claims 2-7, 9-14 and 16-21 are dependent upon claims 1, 8 and 15, respectively, which the Applicants believe are allowable over the cited prior art of record for the same reasons provided above.

Based on the arguments presented above, the withdrawal of the rejections under 35 U.S.C. 102(e) and 35 U.S. C. 103(a) is respectfully requested.

The Applicants respectfully request that, if the Examiner should use new references to reject the claims in another Office Action, such Office Action should be designated as non-final because the Examiner failed to address the claimed feature of cross-talk interference in the March 14, 2007 Office Action.

Conclusion

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing amendment and remarks, Applicants respectfully submit that the present application, including claims 1-21, is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

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